



Armed Forces College of Medicine AFCM



Pectoral Region

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INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

1. Identify the attachments of the axillary fascia.
2. Identify the attachments & structures piercing clavipectoral fascia.
3. Describe attachment, action and nerve supply muscles of the pectoral region; pectoralis major, pectoralis minor, subclavius and serratus anterior.

Key points



1. Pectoral muscles
2. Clavipectoral fascia
3. Serratus anterior

Pectoral region



Superficial fascia:

Contains 1- cutaneous nerves & vessels

2- The breast

(mammary gland)

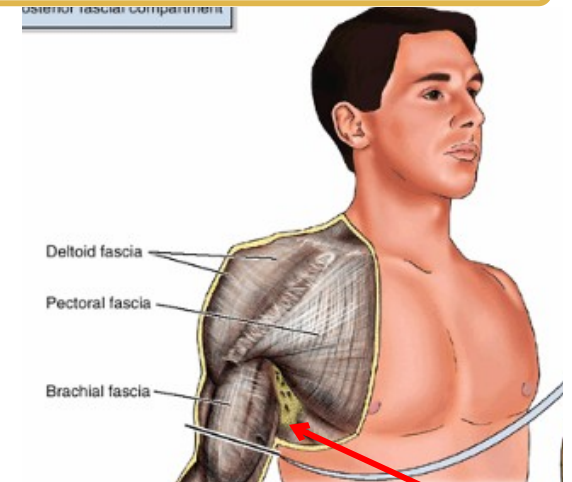
Deep fascia: (Pectoral fascia)

This is a thin membrane that invests the pectoralis major muscle.

Attachments:

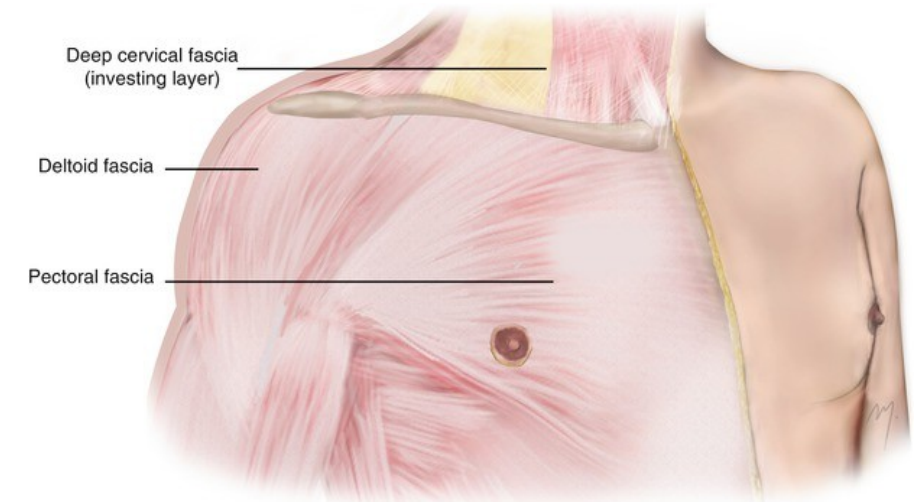
Superiorly: to the clavicle.

Inferiorly: continuous with the



axillary fascia

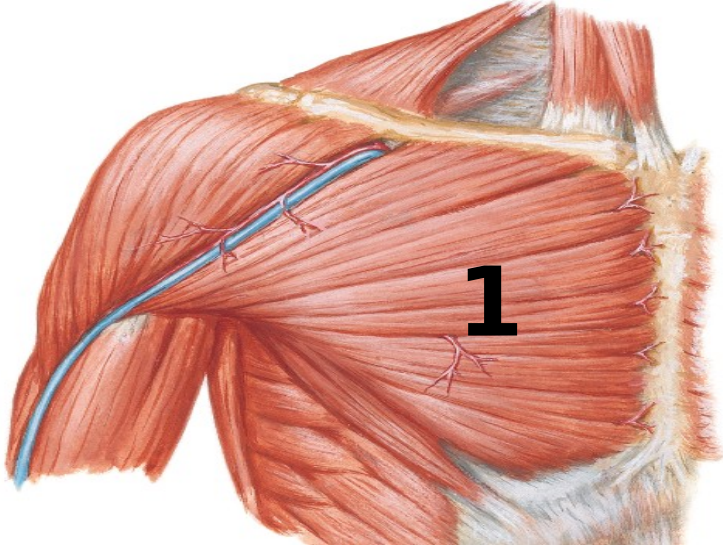
Clinically oriented Anatomy, 5th edition, Keith M



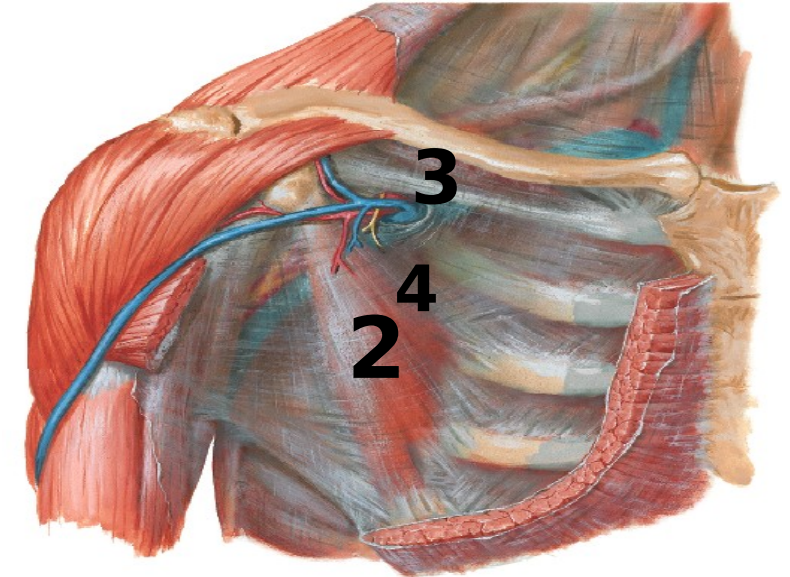
Pectoral region



Muscles of pectoral region: *Connects U.L.to* *thora*



Frank H.Netter. 4th edition



Frank H.Netter. 4th edition

1. Pectoralis Major muscle

Deep to pectoralis major are:

2. Pectoralis Minor

3. Subclavius muscle

4. Clavipectoral fascia (between 2 & 3)

Pectoralis major



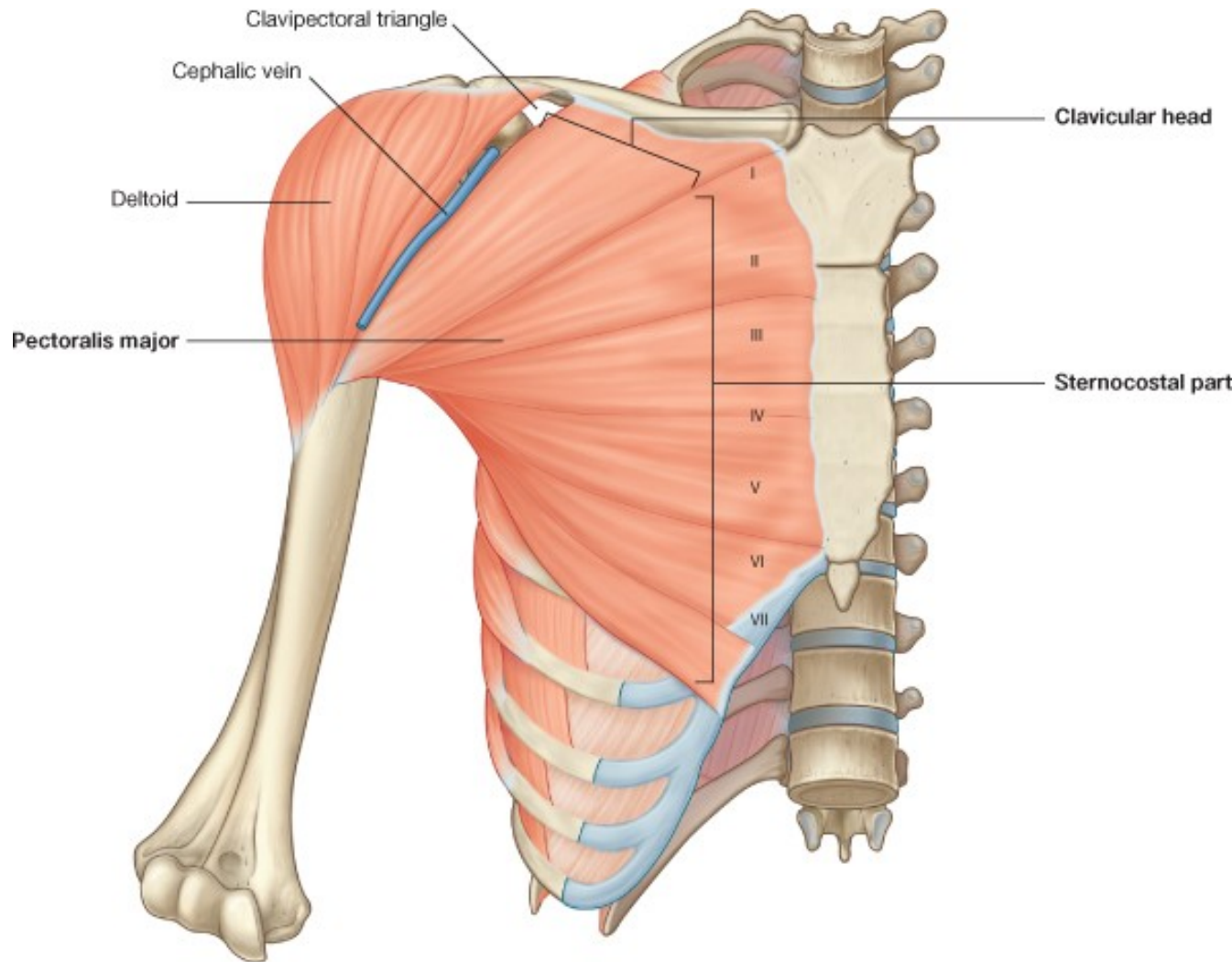
Origin :

Clavicular head : from
anterior surface of medial
half of the clavicle

Sternocostal head : from
Corresponding half of anterior
surface of sternum.
2nd to 6th costal cartilages.

Insertion :

flat **bilaminar tendon** into the
lateral lip of bicipital groove.



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Pectoralis major



Pectoralis major:

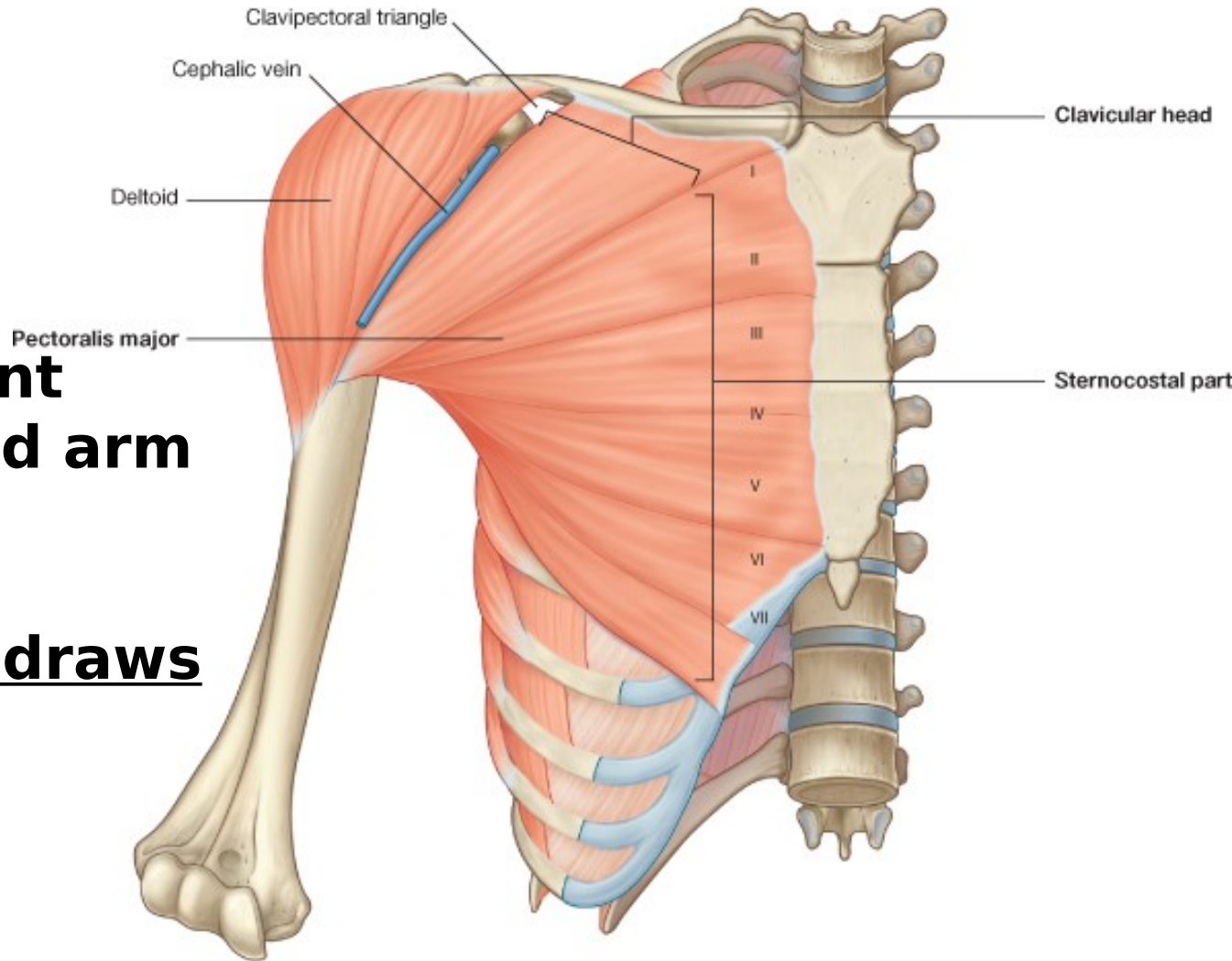
on:

the **whole muscle** adduct and
internally rotate shoulder joint.

Clavicular head : flexes shoulder joint

Sternocostal head : brings the flexed arm
to resting position.

**When insertion is fixed, the muscle draws
trunk upwards as in climbing**



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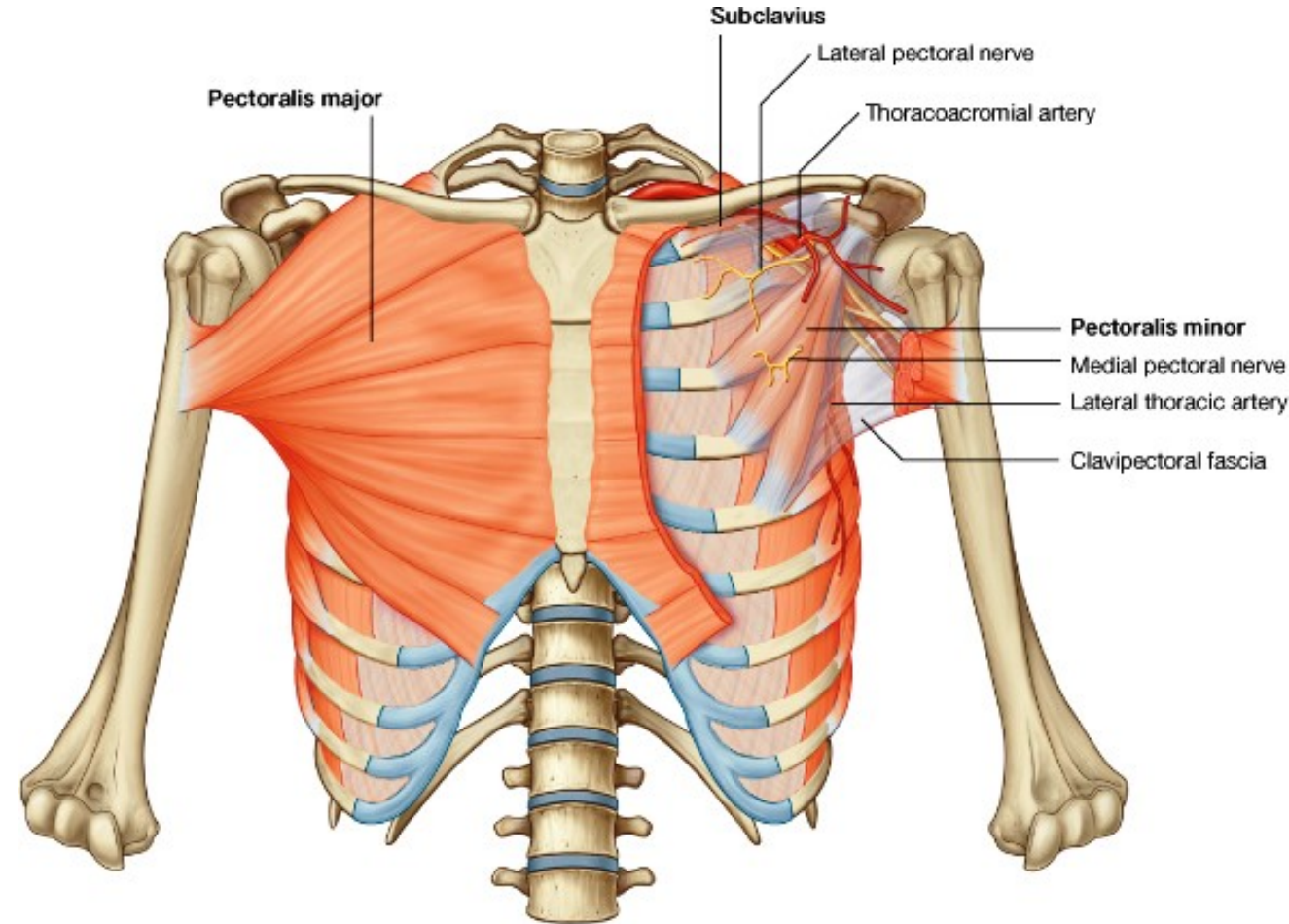
Pectoralis minor



Origin :
1st, 4th, 5th ribs

Insertion :
Coracoid process

Action:
Adduction and depression
of the scapula.



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Subclavius muscle



Origin :

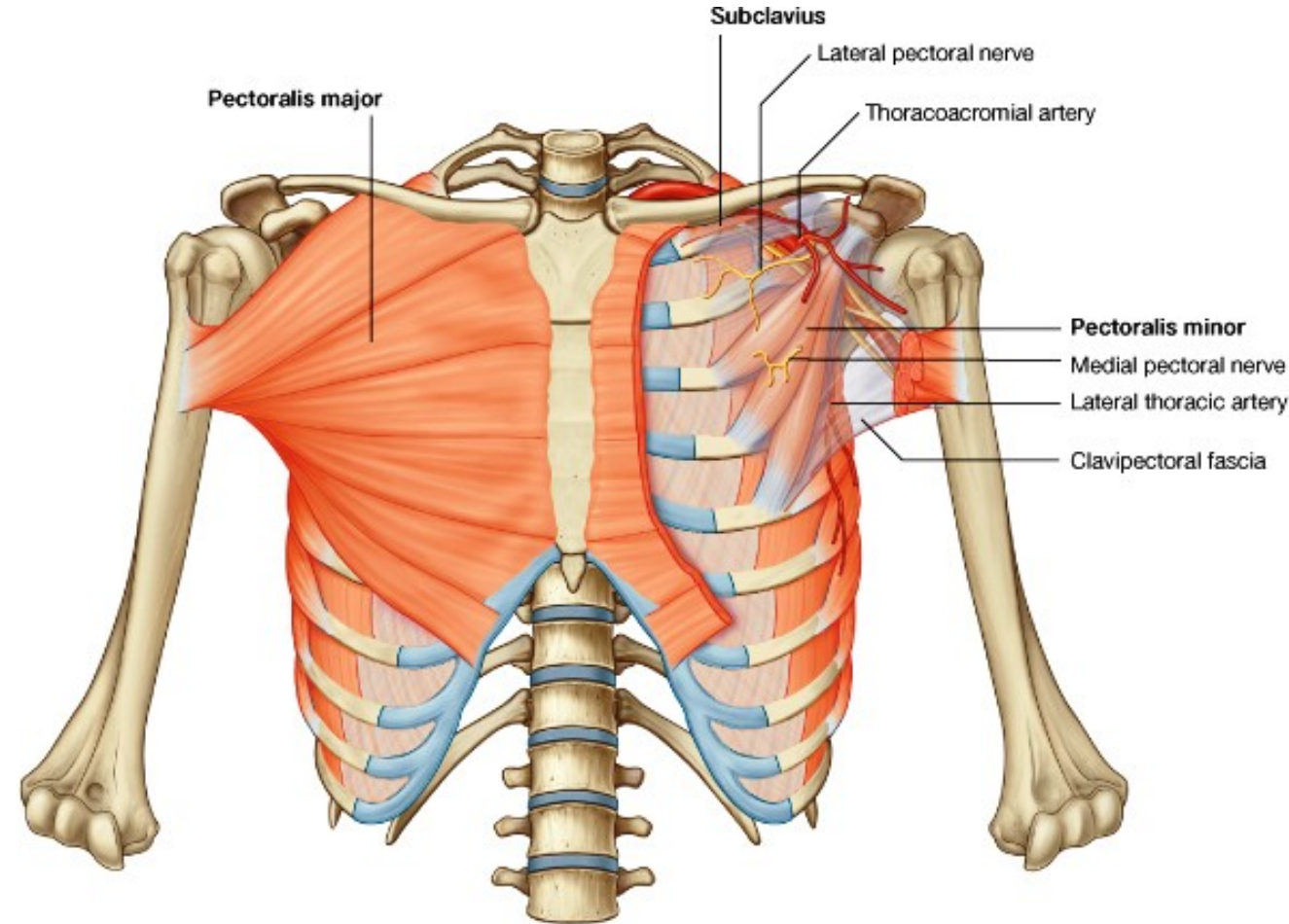
1st costochondral junction)

Insertion :

Below of subclavius in the inferior
face of the clavicle.

Function:

Stabilizes the clavicle during
movements of shoulder girdle.



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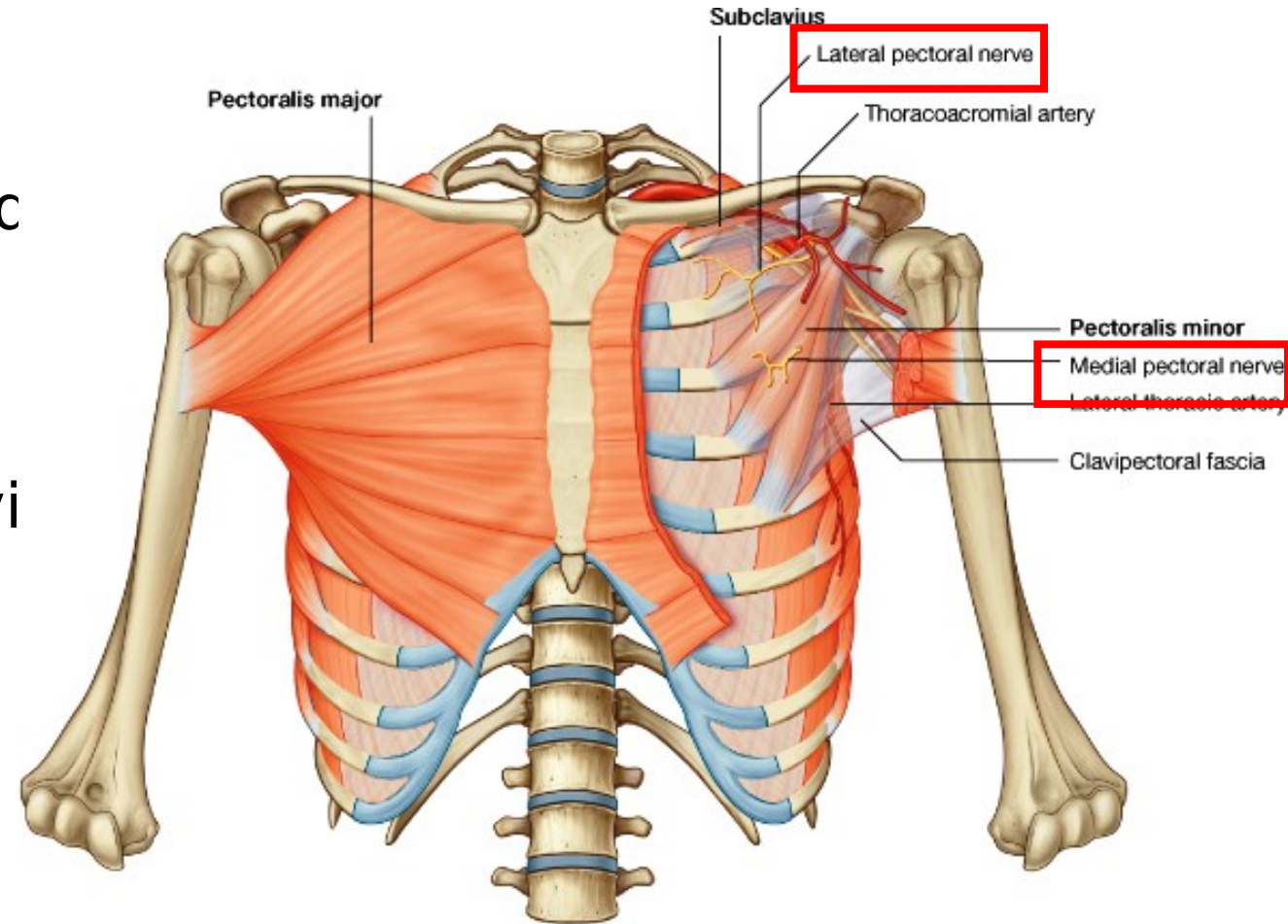
Pectoral region



The supply of pectoral muscles :

Pectoralis major and minor are supplied by medial & lateral pectoral nerves.

Subclavius is supplied by nerve to subclavius



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Lecture Quiz 1 (pectoral muscles)



- Pectoralis major action on the shoulder include:
 - a) Abduction & lateral rotation
 - b) Adduction & medial rotation
 - c) Protraction of scapula
 - d) Extension

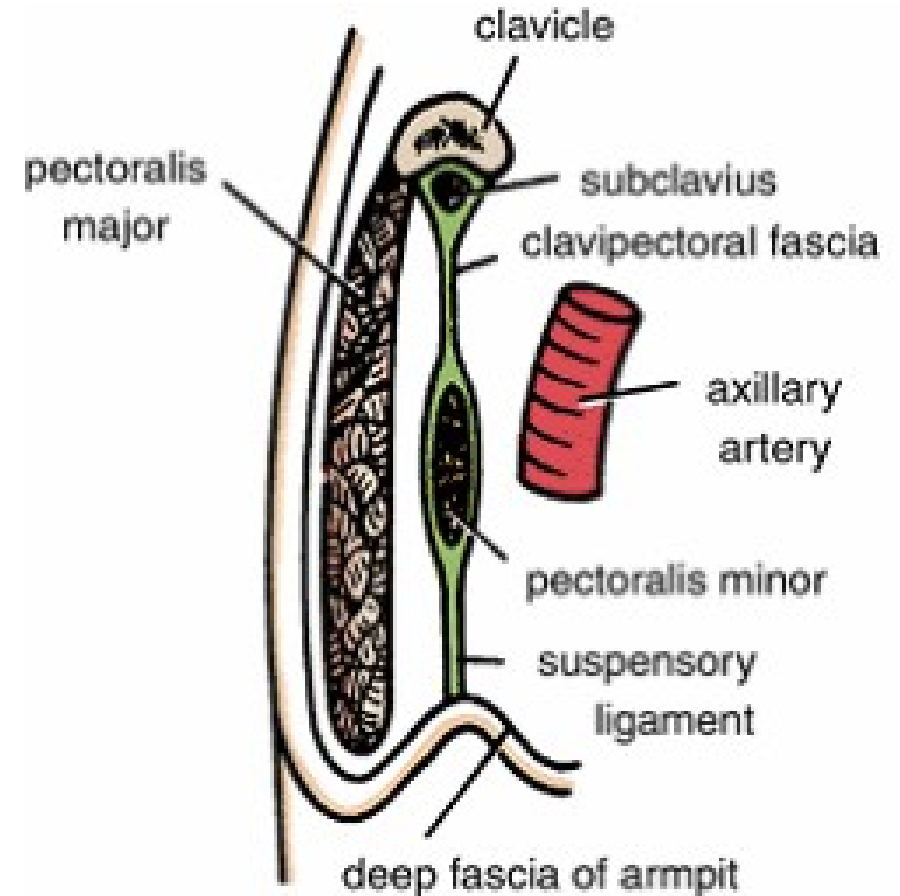
Clavipectoral fascia



A strong sheet of fibrous tissue, that lies **deep** to **pectoralis major** muscle, filling the gap between the **subclavius** and **pectoralis minor** muscles .

Attachments:

Superiorly: It splits to enclose the subclavius muscle and is attached to the lips of the subclavius groove.



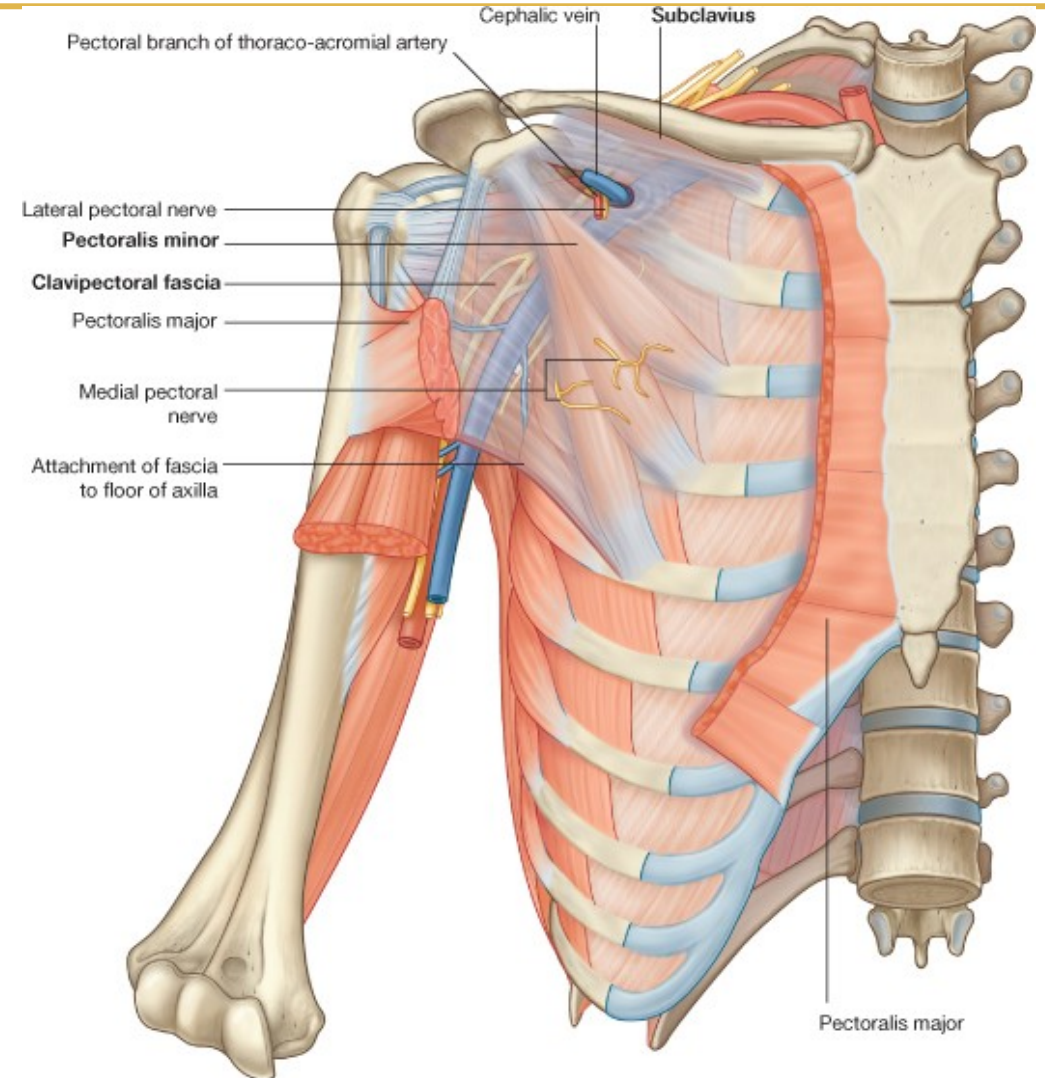
Clinical Anatomy by regions, Richard S. Snell, 9th edition

Clavipectoral fascia



Medially: It blends with fascia over the first two intercostal spaces and is attached to the 1st rib medial to subclavius.

Laterally: it is thick and dense and is attached to the coracoid process.



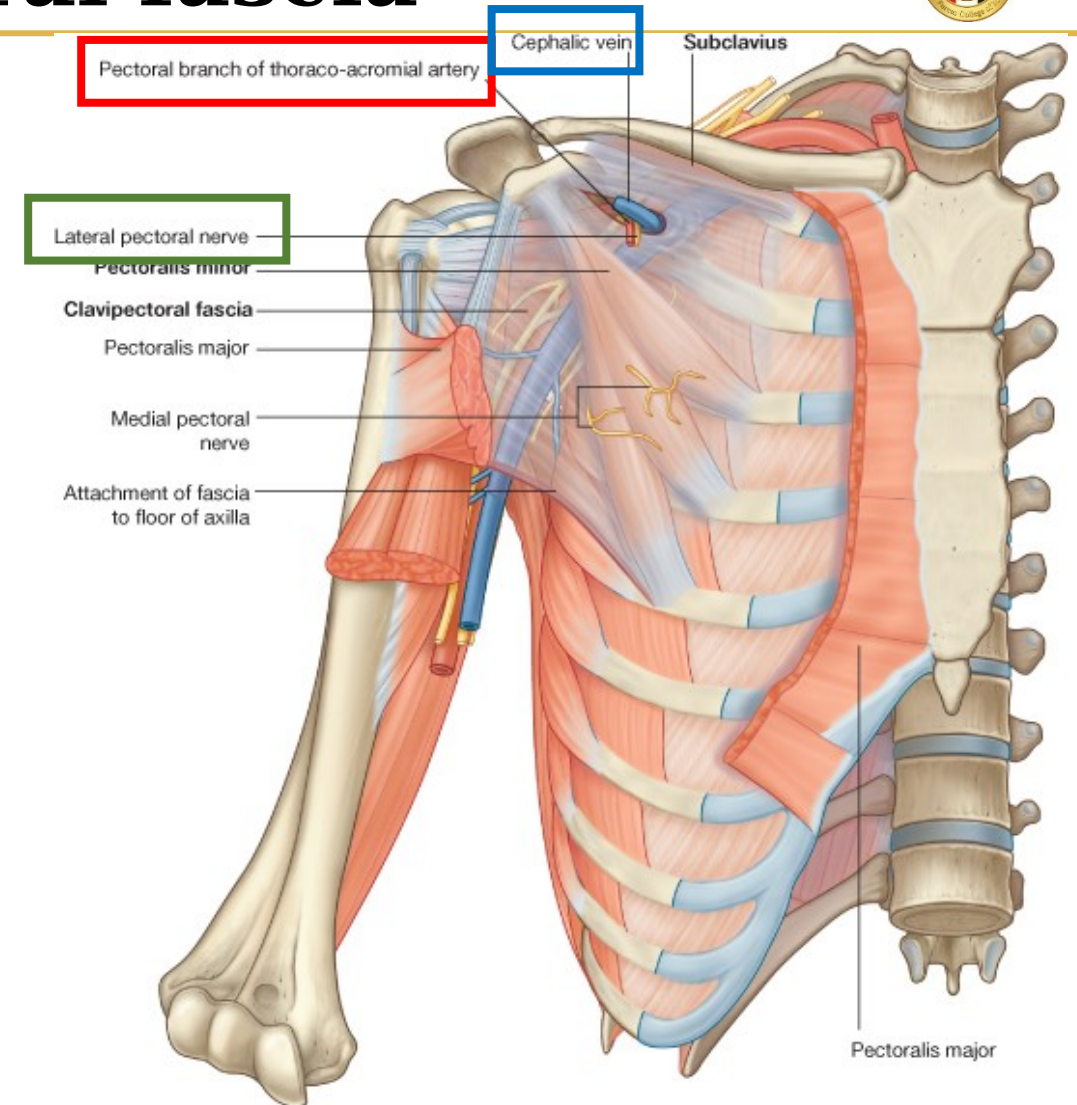
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Clavipectoral fascia



Structures piercing the clavipectoral fascia:

1. **Thoracoacromial artery** and vein.
2. **Cephalic vein** to terminate into the axillary vein.
3. **Lateral pectoral nerve**.
4. Lymph vessels.



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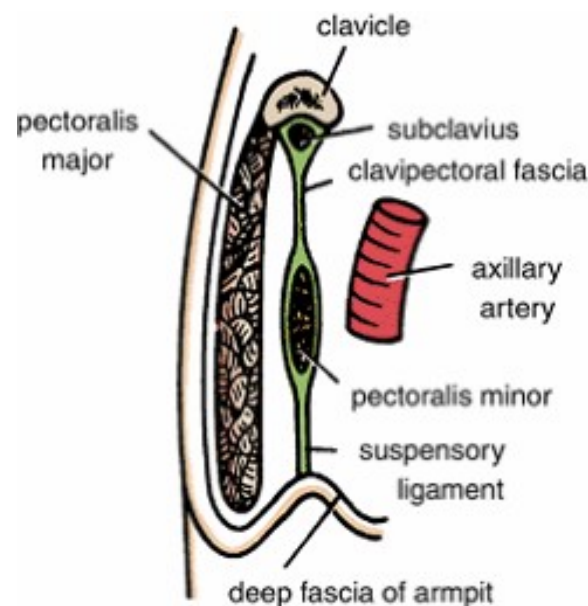
Clavipectoral fascia



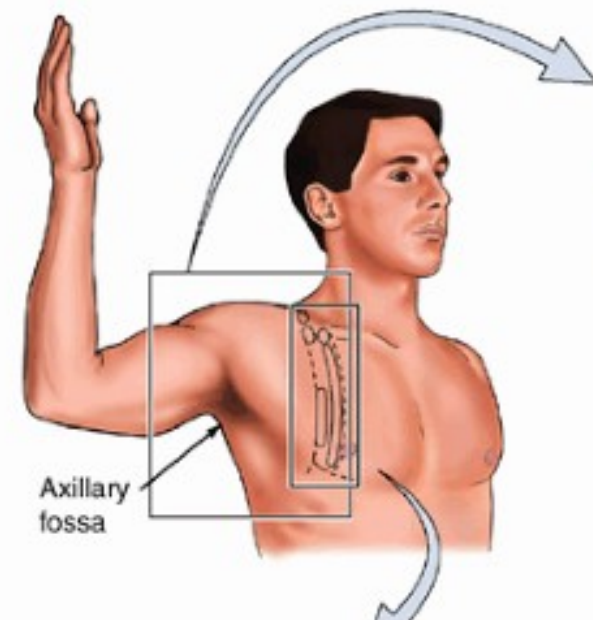
Functions of the clavipectoral fascia:

1. It **protects** the contents of the axilla.

2. The suspensory ligament **raises the skin of the floor of the axilla** when the clavicle is elevated and thus it maintains the hollow of the axilla.



Clinical Anatomy by regions, Richard S. Snell, 9th edition



Clinically oriented Anatomy, 5th edition, Keith Moore

Lecture Quiz 2 (clavipectoral fascia)



- One of the following structures, pierces clavipectoral fascia
 - a) Pectoralis minor muscle
 - b) Medial pectoral nerve
 - c) Long thoracic nerve
 - d) Thoracoacromial artery

Serratus anterior muscle

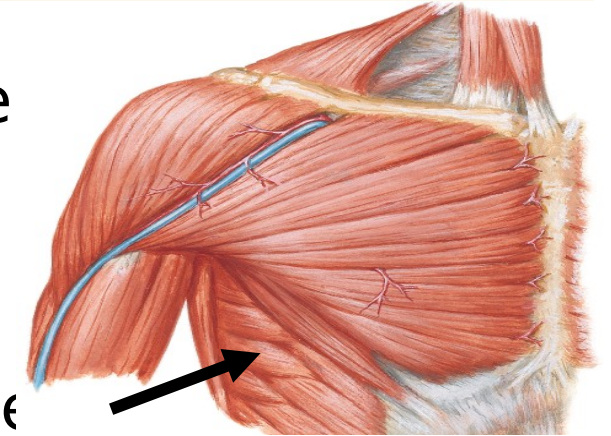


Origin: A muscle arising by 8 fleshy digitations from the inserted into scapula.

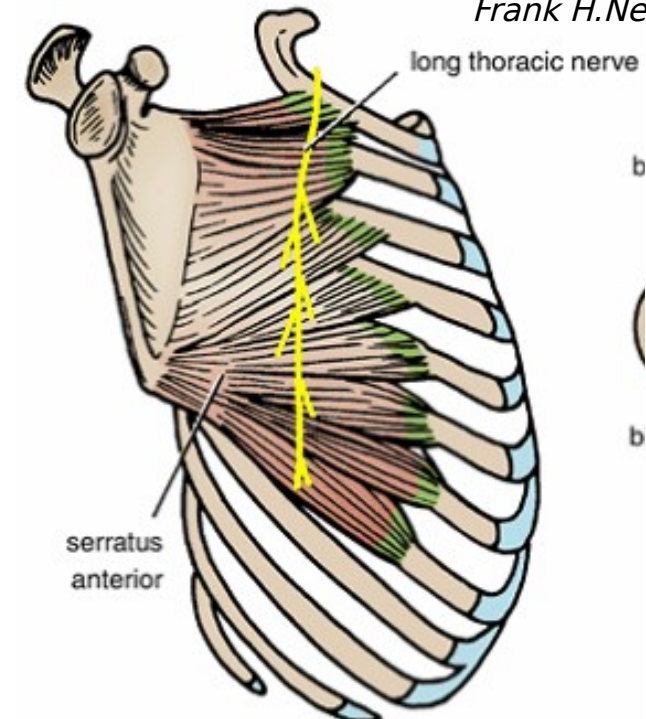
Insertion:

The muscle passes **backwards** to be inserted into the ventral aspect of the **medial border of the scapula** as

- **The 1st digitation** is inserted opposite the superior angle of the scapula.
- **The 2nd & 3rd digitations** are inserted along the medial border of the scapula.
- **The lower 5 digitations** converge into a the inferior angle of the scapula.



Frank H. Netter. 4th edition



Serratus anterior muscle

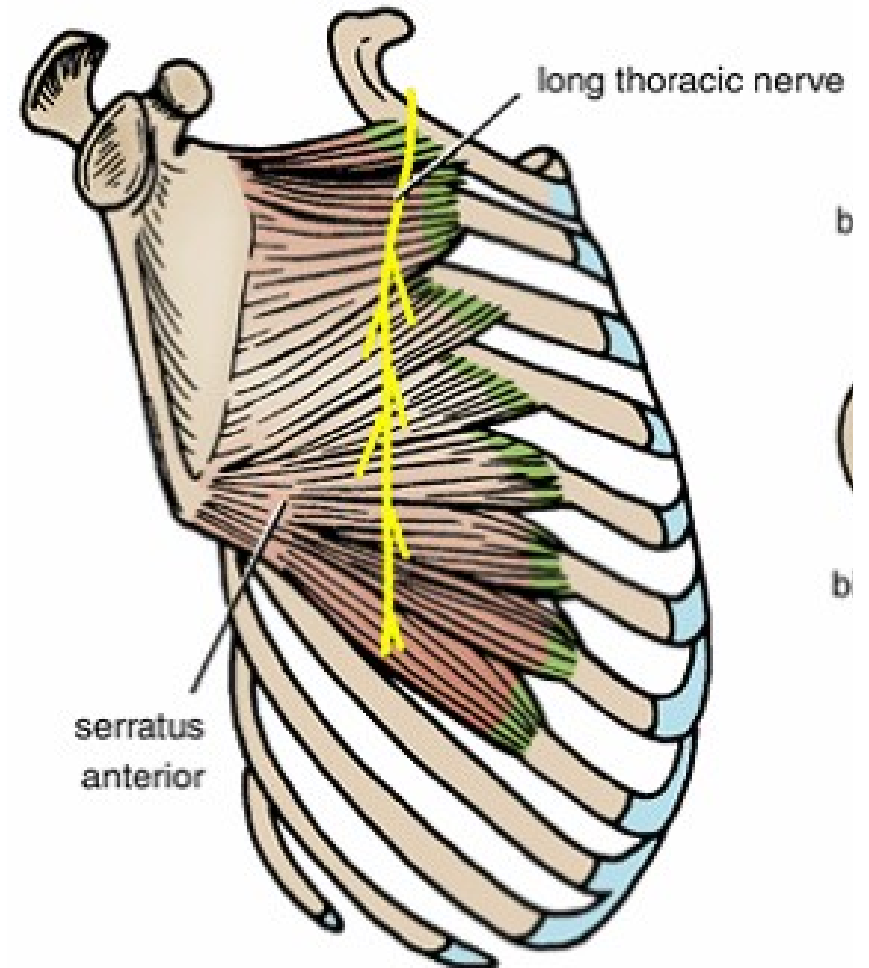


Nerve supply:

Nerve to Serratus anterior (Long thoracic nerve) (C5,6,7) (from the roots of the the brachial plexus).

** Action:

1. **Protraction** and **depression** of the scapula.
2. Its lower 5 digitations act with the upper and lower fibers of trapezius producing **upward rotation of the scapula** during raising the arm above the head.



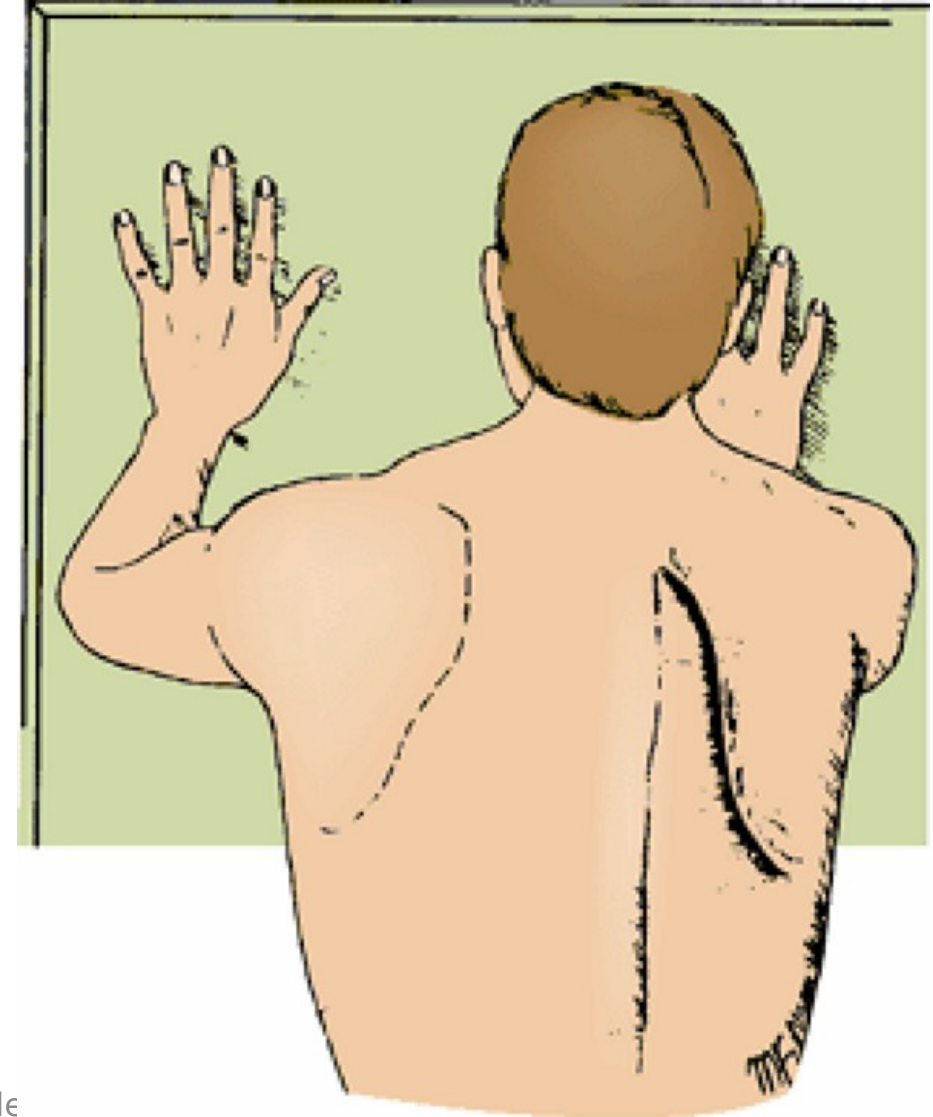
Clinical Anatomy by regions, Richard S. Snell, 9th edition

Serratus anterior muscle



Applied Anatomy:

Injury of the **long thoracic nerve** leads to the paralysis of the muscle. This results in **winging of the scapula** (where the scapula stands out as a wing on pressing forwards with outstretched arm i.e. the medial border of the scapula is not in contact with the thoracic wall).



Lecture Quiz 3 (serratus anterior)



- Serratus anterior muscle is supplied by one of the following nerves:
 - a) Lateral pectoral
 - b) Medial pectoral
 - c) Long thoracic
 - d) Axillary

SUGGESTED TEXTBOOKS



1. Frank H. Netter Atlas of Human Anatomy, 4th edition.

Plates 424,426 & 428.

2. Clinical Anatomy by regions, Richard Snell, 9th edition.

From page 343- 348.

Summary



1. The attachments of the axillary fascia.
2. The attachments, function & structures piercing clavipectoral fascia.
3. Pectoral muscles attachments, action & nerve supply.



Thank You